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16

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<213> Unknown
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microbes in soil sample collected
in Wyoming, USA

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cttccgcgcc ggagct

16

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microbes in soil sample collected
in Wyoming, USA

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16

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<213> Unknown
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 microbes in soil sample collected
 in Wyoming, USA

 <400> 115
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 <211> 16
 <212> DNA
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 microbes in soil sample collected
 in Wyoming, USA

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 <213> Unknown
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 microbes in soil sample collected
 in Wyoming, USA

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 microbes in soil sample collected
 in Wyoming, USA

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 microbes in soil sample collected
 in Wyoming, USA

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 <210> 120

<211> 16
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 microbes in soil sample collected
 in Wyoming, USA

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<210> 121
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 <213> Unknown
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 microbes in soil sample collected
 in Wyoming, USA

<400> 121
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<210> 122
 <211> 16
 <212> DNA
 <213> Unknown
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 <223> ribosomal DNA sequence tag isolated from
 microbes in soil sample collected
 in Wyoming, USA

<400> 122
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<210> 123
 <211> 16
 <212> DNA
 <213> Unknown
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 <223> ribosomal DNA sequence tag isolated from
 microbes in soil sample collected
 in Wyoming, USA

<400> 123
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<210> 124
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 <213> Unknown
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 microbes in soil sample collected
 in Wyoming, USA

<400> 124
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<210> 125
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microbes in soil sample collected
in Wyoming, USA

<400> 125
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16

<210> 126
<211> 16
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microbes in soil sample collected
in Wyoming, USA

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16

<210> 127
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microbes in soil sample collected
in Wyoming, USA

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16

<210> 128
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microbes in soil sample collected
in Wyoming, USA

<400> 128
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16

<210> 129
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microbes in soil sample collected
in Wyoming, USA

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16

<210> 130
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 microbes in soil sample collected
 in Wyoming, USA

<400> 130
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16

<210> 131
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 microbes in soil sample collected
 in Wyoming, USA

<400> 131
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16

<210> 132
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 microbes in soil sample collected
 in Wyoming, USA

<400> 132
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16

<210> 133
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 microbes in soil sample collected
 in Wyoming, USA

<400> 133
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16

<210> 134
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 microbes in soil sample collected
 in Wyoming, USA

<400> 134
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<210> 135
<211> 16
<212> DNA
<213> Unknown
<220>
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microbes in soil sample collected
in Wyoming, USA

<400> 135
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<210> 136
<211> 16
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<223> ribosomal DNA sequence tag isolated from
microbes in soil sample collected
in Wyoming, USA

<400> 136
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<210> 137
<211> 16
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<213> Unknown
<220>
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microbes in soil sample collected
in Wyoming, USA

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<220>
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<220>
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<223> Biotin

<400> 138
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<210> 139

<211> 21
 <212> DNA
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<220>
 <223> Oligonucleotide

<400> 139
 ytcacgrcay gagctgacga c

21

<210> 140
 <211> 28
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<220>
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<220>
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 <223> 5' Phosphate

<220>
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 <222> (28)..(28)
 <223> Dideoxy

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28

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<220>
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<400> 141
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24

<210> 142
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<220>
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<220>
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<220>
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<222> (28)..(28)
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28

<210> 143
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<220>
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<400> 143
 aatgtcaagt cagcgatgc tagt

24

<210> 144
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<220>
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<220>
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 <223> Biotin

<400> 144
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21

<210> 145
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<220>
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<220>
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 <223> Biotin

<400> 145
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21

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<220>
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21

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<220>
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<400> 147
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30

<210> 148
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 <212> DNA
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<220>
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<400> 148
 aatgtcaagt cagcggatgc tagtctggag

30

<210> 149
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 <223> 5' Phosphate

<220>
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27

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<210> 152
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<210> 154

<211> 33
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<220>
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<220>
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<400> 154
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33

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<220>
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 <222> (1)..(1)
 <223> biotin

<220>
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 <222> (22)..(22)
 <223> A, G, C or T

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22

<210> 156
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 <212> DNA
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<220>
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<220>
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 <222> (25)..(25)
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<400> 156
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25

<210> 157
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 <220>
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 <222> (14)..(22)
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 <400> 157
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 <400> 158
 gtcagttgcc gaagct 16

 <210> 159
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 <212> DNA
 <213> Uncultured Aquificales OPS132

 <400> 159
 gtccgtgccg taagct 16

 <210> 160
 <211> 16
 <212> DNA
 <213> Bacteroides caccae

 <400> 160
 atggttgtcg tcagct 16

 <210> 161
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 <212> DNA
 <213> Actinomyces bovis

 <400> 161
 tttccgcgcc gtagct 16

 <210> 162
 <211> 16
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 <400> 162
 tttctgcgcc gtagct 16

 <210> 163
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<210> 167 <211> 16 <212> DNA <213> Acetobacter aceti	
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<210> 168 <211> 16 <212> DNA <213> Gluconobacter asaii	
<400> 168 actcagtgtc gaagct	16
<210> 169 <211> 16 <212> DNA <213> Burkholderia sp. JB1	
<400> 169 ccttagtaac gaagct	16
<210> 170 <211> 16 <212> DNA <213> Denitrobacter permanens	

<400> 170
acgatgtcaa ctagct 16

<210> 171
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<213> Desulfobacter curvatus

<220>
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<222> (11)..(11)
<223> A, G, C or T

<400> 171
ctgctgtgcc naagct 16

<210> 172
<211> 16
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<213> Desulfobulbus sp. BG25

<400> 172
cctctgtgtc gcagct 16

<210> 173
<211> 16
<212> DNA
<213> Legionella anisa

<400> 173
acgatgtcaa ctagct 16

<210> 174
<211> 16
<212> DNA
<213> Benzene mineralizing clone SB-1

<400> 174
atggtgtcg tcagct 16

<210> 175
<211> 16
<212> DNA
<213> Escherichia coli

<400> 175
cgtggcttcc ggagct 16

<210> 176
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<212> DNA
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<400> 176
ccgccgtgcc gaagct 16

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<210>	184	
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	ctcccgtgtc gaagct	16
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	ccgccgtgcc ggagct	16
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	ctgaggaacg aaagct	16
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	gggctgtgcc gaagct	16
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	ggtcggtgcc ggagct	16

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	ggtccgtgcc ggagct	16
<210>	196	
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<213>	Desulfurococcus mobilis	
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	ctaggtgttg ggtg	14

<210> 198
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<400> 198
 ctaggtgttg ggcg 14

<210> 199
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 <213> *Metallosphaera sedula*

<400> 199
 ctaggtgtcg cgta 14

<210> 200
 <211> 14
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 <213> *Sulfolobus acidocaldarius*

<400> 200
 ctaggtgtcg agta 14

<210> 201
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 <212> DNA
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<400> 201
 ctaggtgtca cgtg 14

<210> 202
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 ctagctgttg ggtg 14

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 <213> *Pyrobaculum islandicum*

<400> 203
 ctagctgtcg gccg 14

<210> 204
 <211> 14
 <212> DNA
 <213> *Archaeoglobus fulgidus*

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 ctaggtgtca ccga 14

<210> 205
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 <213> Archaeoglobus veneficus

<400> 205
 ctaggtgtca ccgg 14

<210> 206
 <211> 14
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 <213> Haloarcula japonica

<400> 206
 ctaggtgtgg cgta 14

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 ctaggtgtgg cggt 14

<210> 208
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 <213> Methanococcus jannaschii

<400> 208
 ctaggtgtcg cgtc 14

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<400> 209
 ctaggtgtcg ggcg 14

<210> 210
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 <213> Picophilus oshimae

<400> 210
 ctagctgtaa actc 14

<210> 211
 <211> 11
 <212> PRT
 <213> Desulfurobacterium thermolithotrophum

<400> 211

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Gly
 1 5 10

<210> 212
 <211> 11
 <212> PRT
 <213> Uncultured Aquificales OPS132

<400> 212

Arg Ala Gln Pro Leu Ser Cys Val Thr Ser Gly
 1 5 10

<210> 213
 <211> 13
 <212> PRT
 <213> Bacteroides caccae

<400> 213

Arg Ala Gln Pro Leu Ser Ser Val Thr Asn Arg Ser Cys
 1 5 10

<210> 214
 <211> 19
 <212> PRT
 <213> Actinomyces bovis

<400> 214

Arg Ala Gln Pro Leu Ser Arg Val Ala Ser Thr Leu Trp Trp Gly Leu
 1 5 10 15

Ala Gly Asp

<210> 215
 <211> 19
 <212> PRT
 <213> Actinomyces meyeri

<400> 215

Arg Ala Gln Pro Leu Pro Tyr Val Ala Ser Thr Leu Trp Trp Gly Leu
 1 5 10 15

Val Gly Asp

<210> 216
 <211> 18
 <212> PRT
 <213> Denitrobacterium detoxificans

<400> 216

Arg Ala Gln Pro Leu Pro His Val Ala Ser Ile Arg Leu Gly Thr His
 1 5 10 15

Gly Gly

<210> 217
 <211> 14
 <212> PRT
 <213> Uncultured GNS bacteria BPC110

<400> 217

Arg Ala Gln Pro Leu Leu Tyr Val Ile Arg Val Ile Pro Asp
 1 5 10

<210> 218
 <211> 14
 <212> PRT
 <213> Uncultured GNS bacteria GCA004

<400> 218

Arg Ala Gln Pro Ser Leu Tyr Val Thr Arg Ile Ile Arg Asp
 1 5 10

<210> 219
 <211> 14
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 <213> Uncultured GNS bacteria GCA112

<400> 219

Arg Ala Gln Pro Ser Pro Tyr Val Ile Arg Val Ile Arg Asp
 1 5 10

<210> 220
 <211> 16
 <212> PRT
 <213> Acetobacter aceti

<400> 220

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Met Phe Gly Trp Ala Leu
 1 5 10 15

<210> 221
 <211> 16
 <212> PRT
 <213> Gluconobacter asaii

<400> 221

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Thr Phe Arg Trp Ala Leu
 1 5 10 15

<210> 222
 <211> 17
 <212> PRT
 <213> Burkholderia sp. JB1

<400> 222

Arg Ala Gln Pro Leu Ser Leu Val Ala Thr Gln Glu His Ser Arg Glu
 1 5 10 15

Thr

<210> 223
 <211> 15
 <212> PRT
 <213> Denitrobacter permanens

<400> 223

Arg Ala Gln Pro Leu Pro Leu Val Ala Thr Phe Ser Trp Ala Leu
 1 5 10 15

<210> 224
 <211> 19
 <212> PRT
 <213> Desulfobacter curvatus

<400> 224

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Thr Leu Cys Gly Asn Ser
 1 5 10 15

Asn Glu Thr

<210> 225
 <211> 19
 <212> PRT
 <213> Desulfobulbus sp. BG25

<400> 225

Arg Ala Gln Pro Leu Pro Leu Val Ala Ser Ser Ser Ala Gly His Ser
 1 5 10 15

Lys Gly Thr

<210> 226
 <211> 11
 <212> PRT
 <213> Legionella anisa

<400> 226

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Thr
 1 5 10

<210> 227
 <211> 16
 <212> PRT
 <213> Benzene mineralizing clone SB-1

<400> 227

Arg Ala Gln Pro Leu Pro Leu Val Ala Asn Arg Ser Ser Trp Gly Leu
 1 5 10 15

<210> 228
 <211> 19
 <212> PRT
 <213> Escherichia coli

<400> 228

Arg Ala Gln Pro Leu Ser Phe Val Ala Ser Gly Pro Ala Gly Asn Ser
 1 5 10 15

Lys Glu Thr

<210> 229
 <211> 16
 <212> PRT
 <213> Uncultured Acidobacterium Sub.Div-1

<400> 229

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Gly Ser Ser Arg Ala Leu
 1 5 10 15

<210> 230
 <211> 19
 <212> PRT
 <213> Uncultured Acidobacterium Sub.Div-1

<400> 230

Arg Ala Gln Pro Leu Ser Ser Val Ala Ile Gly Ser Ser Arg Ala Thr
 1 5 10 15

Leu Ala Lys

<210> 231
 <211> 11
 <212> PRT
 <213> Uncultured Acidobacterium Sub.Div-1

<400> 231

Arg Ala Gln Pro Leu Phe Ala Ser Cys His His
 1 5 10

<210> 232
 <211> 19
 <212> PRT
 <213> Uncultured Acidobacterium Sub.Div-1
 <400> 232

Arg Ala Gln Pro Leu Phe Ala Gln Leu Pro Ser Phe Ser Trp Ala Leu
 1 5 10 15

Cys Arg Asn

<210> 233
 <211> 11
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 <220>
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 <223> Unable to determine

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<210> 234
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 <212> PRT
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 <400> 234

Arg Ala Gln Pro Leu Leu Pro Val Ala Thr Ile
 1 5 10

<210> 235
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 <212> PRT
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Arg Ala Gln Pro Leu Ser Pro Val Ala Ile Ile
 1 5 10

<210> 236
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<400> 236

Arg Ala Gln Pro Leu Ser Ser Val Ala Thr Ile
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<210> 237

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Arg Ala Gln Pro Leu Phe Leu Val Ala Thr Ile
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<210> 238

<211> 13

<212> PRT

<213> Uncultured Acidobacterium Sub.Div-1

<400> 238

Arg Ala Gln Pro Ser Ser Leu Val Ala Asn Thr Leu Trp
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<210> 239

<211> 18

<212> PRT

<213> Uncultured Acidobacterium Sub.Div-2

<400> 239

Arg Ala Gln Pro Leu His Val Val Ala Thr Arg Lys Arg Glu Leu Tyr
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Val Asp

<210> 240

<211> 18

<212> PRT

<213> Uncultured Acidobacterium Sub.Div-2

<400> 240

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Arg Gly

<210> 241

<211> 19

<212> PRT

<213> Uncultured Acidobacterium Sub.Div-3

<400> 241

Arg Ala Gln Pro Ser Ser Leu Val Ala Asn Pro Gln Gly Lys His Pro
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Lys Gly Thr

<210> 242

<211> 11

<212> PRT

<213> Uncultured Acidobacterium Sub.Div-3

<400> 242

Arg Ala Arg Pro Leu Ser Cys Val Ala Ile Ile
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<210> 243

<211> 18

<212> PRT

<213> Uncultured Acidobacterium Sub.Div-3

<400> 243

Arg Ala Gln Pro Leu Ser Cys Val Ala Asn Pro Gln Gly Cys Thr Leu
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Arg Arg

<210> 244

<211> 20

<212> PRT

<213> Uncultured Acidobacterium Sub.Div-3

<400> 244

Arg Ala Gln Pro Ser Pro Cys Val Ala Thr Pro Pro Arg Ala Gly Ala
1 5 10 15

Leu Ser Gly Asp
20